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Developing Processing Techniques for Skylab Data
Monthly Progress Report, August 1974

EREP Investigation 456 M
NASA Contract NAS9-13280

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The following report serves as the eighteenth monthly progress report for EREP Investigation 456 M which is entitled "Developing Processing Techniques for Skylab Data". The financial report for this contract (NAS9-13280) is being submitted under separate cover.

The purpose of this investigation is to test information extraction techniques for SKYLAB S-192 data and compare with results obtained in applying these techniques to ERTS and aircraft scanner data.

During August we continued to analyze the S-192 data provided through ERIM's EOS Systems Study, concentrating on locating the training areas. It will be recalled that problems due to limited use of dynamic range in all channels and an excessive number of bad scan lines in some channels served to wash out most of the contrast in graymaps which had been generated.

Six channels were selected for use for this stage. They are (with their corresponding tape channels shown parenthetically): .46-.51 μm(18), .52-.56 μm(2), .56-.61 μm(4), .62-.67 μm(6), 1.09-1.19 μm(20) and 1.2-1.3 μm(17). The data in these six spectral channels were sampled to generate histograms of the range of integer values for each channel. Using this information, graymaps of a small area were produced for each of these channels. The detail on these graymaps was somewhat improved over previous graymap attempts.

To assist in the location of training sets on these graymaps, U-2 photography of the area taken a week after the SKYLAB overpass was obtained. This photography was enlarged to approximate the scale of the graymaps. Using these enlargements and ground truth information, training sets were located in several large, easily identified fields and obviously do not encompass the total variability of the scene.

During the coming month we intend to extract spectral signatures for these training sets, and to begin an analyses of these signatures.

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